



University of Ruhuna- Faculty of Technology
Bachelor of Engineering Technology Honours
Level 3 (Semester 1) Examination, January 2021
Academic year 2019/2020

**Course Unit: ENT3132 Computer Hardware and
Network Maintenance**

Duration: 2 hours

General instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **five questions**.
3. Answer all the questions.
4. All questions carry equal marks.
5. Always start a new question from a new page.

1.

- a) State the different versions of the DDR RAM and compare its data transfer rate and operating voltages.
- b) Differentiate the functions of the Read Only Memory (ROM) and the Random-Access Memory (RAM) according to following terms.
 - i. Speed,
 - ii. Usage,
 - iii. Accessibility, and
 - iv. Read / write options
- c) State the two factors need to consider when selecting a power supply unit.
- d) Explain the impact of RAM capacity for your computer performance?

2.

- a) State four common motherboard functions carryout by the chipset.
- b) List down four different categories of High-Definition Multimedia Interface (HDMI) in terms of usage.
- c) Define the following terms,
 - I. Data Bus,
 - II. Control Bus, and
 - III. Memory Bus.
- d) Explain how Electro-Static Discharge (ESD) and Electromagnetic interference (EMI) impact to the computer?

3.

- a) State three features of Administrative tools in control panel of the Windows operating system?
- b) Explain the troubleshooting process for operating systems.
- c) List down three control panel utilities available in the Microsoft Windows operating system and function of each utility excluding the Administrative tools.
- d) Compare the Command Line Interface (CLI) and Graphical User Interface (GUI) of the Windows operating system.
- e) Explain why a laser printer or scanner should not be connected to the UPS?

4.

- a) Define the term Collision Domain related to computer networking.
- b) State four Logical configuration factors which we need to consider when designing a computer network for a building.
- c) State five factors we need to consider when developing/selecting a communication protocol.
- d) Assume that you are asked to design a simple network for the academic building of the Faculty of Technology, University of Ruhuna.

State six main things you should consider before you start the design.

5.

- a) What is the purpose of Network address Translation (NAT) process when connecting to the internet?
- b) Map the layers of OSI model with the TCP/IP protocol in computer networking?
- c) Explain the use of following command related to computer networking?

I. Ping

II. IP config

III. Tracert

IV. Netstat

- d) Assume that you are trying to connect to learning management system (LMS) of faculty of technology. But you cannot connect to the LMS website even though the ethernet cable is connected to your laptop. Explain the troubleshooting process sort out this problem.